DIGITAL SYNTHESIZER

DS-8 SERVICE MANUAL

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KORG

1. SPECIFICATIONS

Keyboard	: 61 keys (C—C), Initial Touch, Aftertouch.	
Voice	: 8 voices simultaneously (Single Mode).	
Program	: DS-8:	100 Programs, 10 Combinations.
	MCR-01 RAM Card:	1 Bank (100 Programs, 10 Combinations).
	MCR-02 RAM Card:	2 Banks (200 Programs, 20 Combinations).
	MCR-03 RAM Card:	4 Banks (400 Programs, 40 Combinations).
Function Mode	: Master Tune:	+/− 50 cents.
	Transpose:	+/− 12 semitones.
	Foot Switch Assign:	Program Down, OSC select, Velocity, Multi Effect, Aftertouch, Portamento.
	Pedal Assign:	Volume, Timbre, Pitch Modulation Generator, Timbre Modulation Generator.
	Memory Protect:	Internal Off/On, External Off/On.
	Save to RAM Card.	
	Load from RAM Card.	
	MIDI:	Transmit/Receive Channel, Omni Off/On, Local Off/On.
	MIDI Filtering:	Active Sensing Off/On, Program Change Off/On, Control Change Off/On, Exclusive Off/On.
		Data Transfer.
Voice Parameter Mode	: Pitch:	OSC 1, OSC 2, Detune.
	Pitch EG:	Start Level, Attack, Attack Level, Decay, Release, Release Level.
	OSC 1 Waveform:	Type, Spectrum, Ring, Limit, Keyboard Track.
	OSC 2 Waveform:	Type, Spectrum, Ring, Limit, Keyboard Track.
	OSC 1 Timbre EG:	Timbre, EG Intensity, Attack, Decay, Sustain, Release, Keyboard Track.
	OSC 2 Timbre EG:	Timbre, EG Intensity, Attack, Decay, Sustain, Release, Keyboard Track.
	OSC 1 Ampl. EG:	Level, Attack, Decay, Sustain, Release, Keyboard Track.
	OSC 2 Ampl. EG:	Level, Attack, Decay, Sustain, Release, Keyboard Track.
	Modulation Generator:	Waveform (Triangle, Sawtooth, Square, Sample & Hold), Frequency, Delay Time, Pitch Intensity, Timbre/Ampl. Intensity, Timbre Select (Off, OSC 1, OSC 2, OSC 1+2), Ampl. Select (Off, OSC 1, OSC 2, OSC 1+2).
	Portamento:	Mode, Time
	Joystick:	Bend Pitch (+/−1 octave max.), Bend Timbre, Modulation Speed.
	Velocity:	OSC 1 Timbre EG, OSC 2 Timbre EG, OSC 1 Ampl. EG, OSC 2 Ampl. EG.
	Aftertouch:	Pitch MG, Timbre, OSC 1 Ampl. Level, OSC 2 Ampl. Level.
	Assign Mode:	Poly/Unison, Trigger (Single/Multi: in Unison Mode only), Detune (in Unison Mode only).
	Voice Name:	Max. 10 characters.
	Multi Effect:	Mode (Manual Delay, Long Delay, Short Delay, Doubling, Flanger, Chorus), Time, Feedback, Speed/Modulation Frequency, Modulation Intensity, Effect Level.
Combi Parameter Mode	: Controller:	Source, Group 1—8 Off/On.
	Modulation Generator:	Source, Group 1—8 Off/On.
	Multi Effect:	Source, Mode (Manual Delay, Long Delay, Short Delay, Doubling, Flanger, Chorus; only when source is Combination).
	Multi Effect In/Out:	In (A, B, A+B), Out (A, B, A+B).
	Interval/Detune:	Interval (0—12 semitones), Detune (+/−25 cents).
	Key Split/Octave Shift:	Key Split Group 1 (C1—C8), Key Split Group 2 (C1—C8), Octave Shift Group 1 (+1, +2 octaves), Octave Shift Group 2 (−1, −2 octaves).
	No. of Voices:	Group 1—8 (max. 8 voices).
	MIDI Receive Channel:	Group 1—8 (MIDI Channel 1—16).
	Pan:	Group 1—8 (A, B, A+B).
Panel Mode Switches	: Program, Combination, Function Mode, Voice Parameter Mode, Combi Parameter Mode.	
Keyboard Mode Switches	: Single, Layer, Double, Multi.	
Programmer Controls	: Numeric keys (0—9), Int, Ext, Cursor keys (<, >), Write, Compare, Value slider, Up/Yes, Down/No.	
Performance Editor Controls	: Timbre slider, EG1 slider, EG2 slider, OSC Select (1, 2, 1+2), Velocity (Off/On), Aftertouch (Off/On), Portament (Off/On), Multi Effect (Off/On), Multi Effect Select (Manual Delay, Long Delay, Short Delay, Doubling, Flanger, Chorus).	
Balance Slider	: A—A+B—B.	
Volume Slider	: 0—Max.	
Display	: LCD (Liquid Crystal Display), Backlit, 40 Characters × 2 Rows.	
Card Slot	: 1	
Input Jacks	: Damper, Program Up, Assignable Pedal, Assignable Switch.	
Output Jacks	: Output (A/Mono, B), Phones.	
MIDI Jacks	: IN, OUT, THRU.	
Power Consumption	: 16W.	
Power Supply	: Local Voltage.	
Weight	: 10 kg (21 lbs. 16 oz.).	
Dimensions (W × H × D)	: 1024 × 94 × 317mm (40.3″ × 3.7″ × 12.5″).	
Supplied Accessories	: AC Power Cord, Connection Cable.	

*Specifications and exterior appearance are subject to change without notice due to product improvement.

NOTICE

Korg products are manufactured under strict specifications and voltages required by each country. These products are warranted by the Korg distributor only in each country. Any Korg product not sold with a warranty card or carrying a serial number disqualifies the product sold from the manufacturer's/distributor's warranty and liability. This requirements is for your own protection and safety.

2. MIDI IMPLEMENTATION

1. TRANSMITTED DATA

1-1. CHANNEL MESSAGES

STATUS	SECOND	THIRD	DESCRIPTION	ENA
1000 nnnn	0kkk kkkk	0100 0000	Note Off kkkkkkk = 24~108 (61key + Transpose)	A
1001 nnnn	0kkk kkkk	0vvv vvvv	Note On kkkkkkk = 24~108 (61key + Transpose) vvvvvvv = 16~127	A
1011 nnnn	0000 0001	0vvv vvvv	Pitch Modulation (Joy Stick (+Y)) vvvvvvv = 00~127	C
1011 nnnn	0000 0010	0vvvv vvvv	Timbre Modulation (Joy Stick (−Y)) vvvvvvv = 00~127	C
1011 nnnn	0000 0110	0vvv vvvv	Data Entry vvvvvvv = 00~127	E
1011 nnnn	0000 0111	0vvv vvvv	Volume (Volume Pedal) vvvvvvv = 00~127	C
1011 nnnn	0100 0000	0000 0000	Damper Off (Damper Pedal)	C
1011 nnnn	0100 0000	0111 1111	Damper On (Damper Pedal)	C
1011 nnnn	0100 0001	0000 0000	Portamento Off	C
1011 nnnn	0100 0001	0111 1111	Portamento On	C
1011 nnnn	0110 0000	0000 0000	Data increment	E
1011 nnnn	0110 0001	0000 0000	Data Decrement	E
1100 nnnn	0ppp pppp		Program Change ppppppp = 00~99	P
1011 nnnn	0vvv vvvv		Channel Pressure (After Touch) vvvvvvv = 00~127	C
1100 nnnn	0000 0000	0bbb bbbb	Bender Change (Joy Stick (X)) Note 1 bbbbbbb = 00~64~127	C
1110 nnnn	0111 1111	0111 1111	Bender Change (Max) (J.S (X)) Note 1	C

Remark: nnnn: MIDI Channel Number (0~15)
ENA : Trans Enable Mode
A = Always Enable
C = Control On Mode
P = P. Change On Mode
E = Exclusive On Mode

Note 1: Normally, the upper 8 bits change and the lower 8 bits are fixed at 00. However, the lower 8 bits many change to 127 when the maximum data is input (in 128 steps).

0000H	4000H	7F7FH
(Min)	(Center)	(Max)

1-2. SYSTEM REAL TIME MESSAGES

STATUS	DESCRIPTION
1111 1110	Active Sensing

*Trans Enable at ACT ON.

(6) 1 COMBI DUMP REQUEST

BYTE	DESCRIPTION
1111 0000	Exclusive Status
0100 0010	KORG ID 42H
0011 nnnn	Format ID 3nH (n = ch)
0001 0011	DS-8 ID 13H
0001 1001	1 Combi Dump Request 19H
1111 0111	EOX

(7) 1 COMBI DUMP

BYTE	DESCRIPTION
1111 0000	Exclusive Status
0100 0010	KORG ID 42H
0011 nnnn	Format ID 3nH (n = ch)
0001 0011	DS-8 ID 13H
0100 1001	1 Combi Dump 49H
0ddd dddd	
⋮	1 Combi Data (56 bytes)
0ddd dddd	
1111 0111	EOX

(8) ALL COMBI DUMP REQUEST

BYTE	DESCRIPTION
1111 0000	Exclusive Status
0100 0010	KORG ID 42H
0011 nnnn	Format ID 3nH (n = ch)
0001 0011	DS-8 ID 13H
0001 1101	All Combi Dump Request 1DH
1111 0111	EOX

(9) ALL COMBI DUMP

BYTE	DESCRIPTION
1111 0000	Exclusive Status
0100 0010	KORG ID 42H
0011 nnnn	Format ID 3nH (n = ch)
0001 0011	DS-8 ID 13H
0100 1101	All Combi Dump 4DH
0ddd ddd	
⋮	All Combi Dump (440 bytes)
0ddd dddd	
1111 0111	EOX

(10) PANEL MODE REQUEST

BYTE	DESCRIPTION
1111 0000	Exclusive Status
0100 0010	KORG ID 42H
0011 nnnn	Format ID 3nH (n = ch)
0001 0011	DS-8 ID 13H
0001 0010	Panel Mode Request 12H
1111 0000	EOX

(10) PARAMETER CHANGE

BYTE	DESCRIPTION
1111 0000	Exclusive Status
0100 0010	KORG ID 42H
0011 nnnn	Format ID 3nH (n = ch)
0001 0011	DS-8 ID 13H
0100 0001	Parameter Change 41H
0ddd dddd	Parameter No.
0ddd dddd	Parameter Value LSB
0000 000d	Parameter Value MSB
1111 0111	EOX

(11) DATA LOAD COMPLETED

BYTE	DESCRIPTION
1111 0000	Exclusive Status
0100 0010	KORG ID 42H
0011 nnnn	Format ID 3nH (n = ch)
0001 0011	DS-8 ID 13H
0010 0011	Data Load Completed 23H
1111 0111	EOX

(12) DATA LOAD ERROR

BYTE	DESCRIPTION
1111 0000	Exclusive Status
0100 0010	KORG ID 42H
0011 nnnn	Format ID 3nH (n = ch)
0001 0011	DS-8 ID 13H
0010 0100	Data Load Error 24H
1111 0111	EOX

(13) WRITE COMPLETED

BYTE	DESCRIPTION
1111 0000	Exclusive Status
0100 0010	KORG ID 42H
0011 nnnn	Format ID 3nH (n = ch)
0001 0011	DS-8 ID 13H
0010 0001	Write Completed 21H
1111 0111	EOX

(14) WRITE ERROR

BYTE	DESCRIPTION
1111 0000	Exclusive Status
0100 0010	KORG ID 42H
0011 nnnn	Format ID 3nH (n = ch)
0001 0011	DS-8 ID 13H
0010 0010	Write Error 22H
1111 0111	EOX

*Trans Enable at Exclusive ON.

(16) COMBI WRITE REQUEST

BYTE		DESCRIPTION
1111	0000	Exclusive Status
0100	0010	KORG ID 42H
0011	nnnn	Format ID 3nH (n = ch)
0001	1011	DS-8 ID 13H
0001	1010	Combi Write Request 1AH
0ddd	dddd	Combi Program No. 00 ~ 09H
1111	0111	EOX

*Receive Enable at Exclusive ON.

(6) PANEL MODE

BYTE	DESCRIPTION	
1111 0000	Exclusive Status	
0100 0010	KORG ID 42H	
0011 nnnn	Format ID 3nH (n = ch)	
0001 0011	DS-8 ID 13H	
0100 0010	Panel Mode 42H	
0000 0ddd	Panel Mode Data	ddd = 000: Program
1111 0111	E0X	001: Voice Parm
		010: Combi Parm
		011: Function
		100: Combi

(7) PANEL MODE CHANGE

BYTE	DESCRIPTION	
1111 0000	Exclusive Status	
0100 0010	KORG ID 42H	
0011 nnnn	Format ID 3nH (n = ch)	
0001 0011	DS-8 ID 13H	
0100 1110	Panel Mode Change 4EH	
0000 0ddd	Panel Mode Data	ddd = 000: Program
1111 0111	E0X	001: Voice Parm
		010: Combi Parm
		011: Function
		100: Combi

(8) KEYBOARD MODE

BYTE	DESCRIPTION	
1111 0000	Exclusive Status	
0100 0010	KORG ID 42H	
0011 nnnn	Format ID 3nH (n = ch)	
0001 0011	DS-8 ID 13H	
0100 1011	Keyboard Mode 4BH	
0000 00dd	Keyboard Mode Data	dd = 00: Single
1111 0111	E0X	01: Layer
		10: Double
		11: Multi

(9) KEYBOARD MODE CHANGE

BYTE	DESCRIPTION	
1111 0000	Exclusive Status	
0100 0010	KORG ID 42H	
0011 nnnn	Format ID 3nH (n = ch)	
0001 0011	DS-8 ID 13H	
0100 1010	Keyboard Mode Change 4AH	
0000 00dd	Keyboard Mode Data	dd = 00: Single
1111 0111	E0X	01: Layer
		10: Double
		11: Multi

1-3. SYSTEM EXCLUSIVE MESSAGES

(1) DEVICE ID

BYTE	DESCRIPTION
1111 0000	Exclusive Status
0100 0010	KORG ID 42H
0011 nnnn	Format ID 3nH (n = ch)
0001 0011	DS-8 ID 13H
1111 0111	EOX

(2) 1 VOICE DUMP

BYTE	DESCRIPTION
1111 0000	Exclusive Status
0100 0010	KORG ID 42H
0011 nnnn	Format ID 3nH (n = ch)
0001 0011	DS-8 ID 13H
0100 0000	1 Voice Dump 40H
0ddd dddd	
⋮	1 Voice Data (96 bytes)
0ddd dddd	
1111 0111	EOX

(3) ALL VOICE DUMP

BYTE	DESCRIPTION
1111 0000	Exclusive Status
0100 0010	KORG ID 42H
0011 nnnn	Format ID 3nH (n = ch)
0001 0011	DS-8 ID 13H
0100 1100	All Voice Dump 4CH
0ddd dddd	
⋮	All Voice Data (7544 bytes)
0ddd dddd	
1111 0111	EOX

(4) 1 COMBI DUMP

BYTE	DESCRIPTION
1111 0000	Exclusive Status
0100 0010	KORG ID 42H
0011 nnnn	Format ID 3nH (n = ch)
0001 0011	DS-8 ID 13H
0100 1001	1 Combi Dump 49H
0ddd dddd	
⋮	1 Combi Data (56 bytes)
0ddd dddd	
1111 0111	EOX

(5) ALL COMBI DUMP

BYTE	DESCRIPTION
1111 0000	Exclusive Status
0100 0010	KORG ID 42H
0011 nnnn	Format ID 3nH (n = ch)
0001 0011	DS-8 ID 13H
0100 1101	All Combi Dump 4DH
0ddd dddd	
⋮	All Combi Dump (440 bytes)
0ddd dddd	
1111 0111	EOX

2. RECOGNIZED RECEIVED DATA

2-1. CHANNEL MESSAGES

STATUS	SECOND	THIRD	DESCRIPTION	ENA
1000 nnnn	0kkk kkkk	0xxx xxxx	Note Off Note 2	A
1001 nnnn	0kkk kkkk	0000 0000	Note Off Note 2	A
1001 nnnn	0kkk kkkk	0vvv vvvv	Note On Note 2	A
			vvvvvvv = 1～127	
1011 nnnn	0000 0001	0vvv vvvv	Pitch Modulation	C
1011 nnnn	0000 0010	0vvv vvvv	Timbre Modulation	C
1011 nnnn	0000 0110	0vvv vvvv	Data Entry vvvvvvv = 00～127	E
1011 nnnn	0000 0111	0vvv vvvv	Volume	C
1011 nnnn	0000 1010	000x xxxx	Panpot (A)	C
1011 nnnn	0000 1010	001x xxxx	Panpot (A + B)	C
1011 nnnn	0000 1010	010x xxxx	Panpot (A + B)	C
1011 nnnn	0000 1010	011x xxxx	Panpot (B)	C
1011 nnnn	0100 0000	0000 0000	Damper Off	C
1011 nnnn	0100 0000	0111 1111	Damper On	C
1011 nnnn	0100 0001	0000 0000	Portamento Off	C
1011 nnnn	0100 0001	0111 1111	Portamento On	C
1011 nnnn	0110 0000	0000 0000	Data Increment	E
1011 nnnn	0110 0001	0000 0000	Data Decrement	E
1011 nnnn	0111 1010	0000 0000	Local Off	A
1011 nnnn	0111 1010	0111 1111	Local On	A
1011 nnnn	0111 1011	0000 0000	All Notes Off	A
1011 nnnn	0111 1100	0000 0000	OMNI Off (A.N. Off)	A
1011 nnnn	0111 1101	0000 0000	OMNI On (A.N. Off)	A
1011 nnnn	0111 1110	0xxx xxxx	(All Notes Off)	A
1011 nnnn	0111 1111	0000 0000	(All Notes Off)	A
1100 nnnn	0ppp pppp		Program Change Note 3	P
1101 nnnn	0vvv vvvv		After Touch	C
1110 nnnn	0xxx xxxx	0bbb bbbb	Bender Change	C

Remark: nnnn : MIDI Channel Number (0～15)
xxxx : Don't Care
ENA : Receive Enable Mode
A = Always Enable
C = Control On Mode
P = P. Change On Mode
E = Exclusive On Mode

Note 2: Data of notes 24～108 will accepted as they are. Data outside the range (0～23, 109～127) will be shifted an octave at a time until the data falls in the range.

Note 3: PROGRAM modes can be selected from numbers 00 to 99. 0 to 9 can be used to select COMBINATION PROGRAM modes. However, when three digit numbers are entered into the PROGRAM mode, only the last two digits are valid (for example, 100 is received as 00; 127 is received as 27). If two digit numbers are entered into the COMBINATION PROGRAM mode, only the final digit is valid (for example, 10 is received as 0; 127 is received as 7).

2-2. SYSTEM REAL TIME MESSAGES

STATUS	DESCRIPTION
1111 1110	Active Sensing

∗Receive Enable at ACTION.

(11) PANEL MODE CHANGE

BYTE	DESCRIPTION
1111 0000	Exclusive Status
0100 0010	KORG ID 42H
0011 nnnn	Format ID 3nH (n = ch)
0001 0011	DS-8 ID 13H
0100 1110	Panel Mode Change 4EH
0000 0ddd	Panel Mode Data ddd = 000: Program 001: Voice Parm 010: Combi Parm 011: Function 100: Combi
1111 0111	E0X

(12) KEYBOARD MODE REQUEST

BYTE	DESCRIPTION
1111 0000	Exclusive Status
0100 0010	KORG ID 42H
0011 nnnn	Format ID 3nH (n = ch)
0001 0011	DS-8 ID 13H
0001 1011	Keyboard Mode Request 1BH
1111 0111	E0X

(13) KEYBOARD MODE CHANGE

BYTE	DESCRIPTION
1111 0000	Exclusive Status
0100 0010	KORG ID 42H
0011 nnnn	Format ID 3nH (n = ch)
0001 0011	DS-8 ID 13H
0100 1010	Keyboard Mode Change 4AH
0000 00dd	Keyboard Mode Data dd = 00: Single 01: Layer 10: Double 11: Multi
1111 0111	E0X

(14) PARAMETER CHANGE

BYTE	DESCRIPTION
1111 0000	Exclusive Status
0100 0010	KORG ID 42H
0011 nnnn	Format ID 3nH (n = ch)
0001 0011	DS-8 ID 13H
0100 0001	Parameter Change 41H
0ddd dddd	Parameter No.
0ddd dddd	Parameter Value LSB
0000 000d	Parameter Value MSB
1111 0111	E0X

(15) VOICE WRITE REQUEST

BYTE	DESCRIPTION
1111 0000	Exclusive Status
0100 0010	KORG ID 42H
0011 nnnn	Format ID 3nH (n = ch)
0001 0011	DS-8 ID 13H
0001 0001	Voice Write Request 11H
0ddd dddd	Program No. 00~63H
1111 0111	E0X

3. SYSTEM EXCLUSIVE MESSAGE REFERENCE

(1) DEVICE ID REQUEST

BYTE	DESCRIPTION
1111 0000	Exclusive Status
0100 0010	KORG ID 42H
0100 nnnn	Format ID 4nH (n = ch)
1111 0111	EOX

(2) 1 VOICE DUMP REQUEST

BYTE	DESCRIPTION
1111 0000	Exclusive Status
0100 0010	KORG ID 42H
0011 nnnn	Format ID 3nH (n = ch)
0001 0011	DS-8 ID 13H
0001 0000	1 Voice Dump Request 10H
1111 0111	EOX

(3) 1 VOICE DUMP

BYTE	DESCRIPTION
1111 0000	Exclusive Status
0100 0010	KORG ID 42H
0011 nnnn	Format ID 3nH (n = ch)
0001 0011	DS-8 ID 13H
0100 0000	1 Voice Dump 40CH
0ddd dddd	
⋮	1 Voice Data (96 bytes)
0ddd dddd	
1111 0111	EOX

(4) ALL VOICE DUMP REQUEST

BYTE	DESCRIPTION
1111 0000	Exclusive Status
0100 0010	KORG ID 42H
0011 nnnn	Format ID 3nH (n = ch)
0001 0011	DS-8 ID 13H
0001 1100	All Voice Dump Request 1CH
1111 0111	EOX

(5) ALL VOICE DUMP

BYTE	DESCRIPTION
1111 0000	Exclusive Status
0100 0010	KORG ID 42H
0011 nnnn	Format ID 3nH (n = ch)
0001 0011	DS-8 ID 13H
0100 1100	All Voice Dump 4CH
0ddd dddd	
⋮	All Voice Data (7544 bytes)
0ddd dddd	
1111 0111	EOX

∗Receive Enable at Exclusive ON.

4. DS-8 MIDI IMPLEMENTATION CHART DEC. 1, 1986. VERSION: 1-0

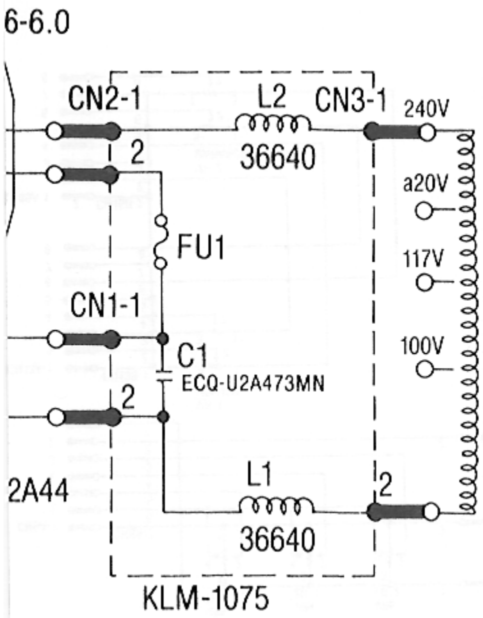
Function		Transmitted	Recognized	Remarks
Basic Channel	Default	1 ~ 16	1 ~ 16	Memorized
	Changed	1 ~ 16	1 ~ 16	
Mode	Default	1	1	Ignore
	Messages	×	OMNI = ON/OFF	
	Altered	**************		
Note Number		24-108	0-127	
	True voice	**************	24-108	
Velocity	Note On	○ 9n, V = 1-127	○ 9n, V = 1-127	
	Note OFF	×	×	
After Touch	Keys	×	×	
	Channels	○	○	*
Pitch Bender		○	○	*
Control Change	1	○	○	Pitch MG *
	2	○	○	Timbre MG *
	6	○	○	Data entry ***
	7	○	○	Volume *
	10	×	○	Panpot *
	64	○	○	Damper pedal *
	65	○	○	Porta switch *
	96	○	○	Data increment ***
	99	○	○	Data decrement ***
Program Change		0-99	0-99	**
	: True #	**************	0-127	
System Exclusive		○	○	Voice dump, etc.
System Common	: Song Pos	×	×	
	: Song Sel	×	×	
	: Tune	×	×	
System Real Time	: Clock	×	×	
	: Commands	×	×	
Aux Messages	: Local ON/OFF	×	○	
	: All Notes OFF	×	○ 123-127	
	: Active Sense	○	○	
	: Reset	×	×	***
Notes		: * Transmit/Receive if CNTRL is ON in FUNCTION : ** Transmit/Receive if PROG is ON in FUNCTION : *** Transmit/Receive if EXCLUSIVE is ON in FUNCTION : **** Transmit/Receive if ACT is ON in FUNCTION		

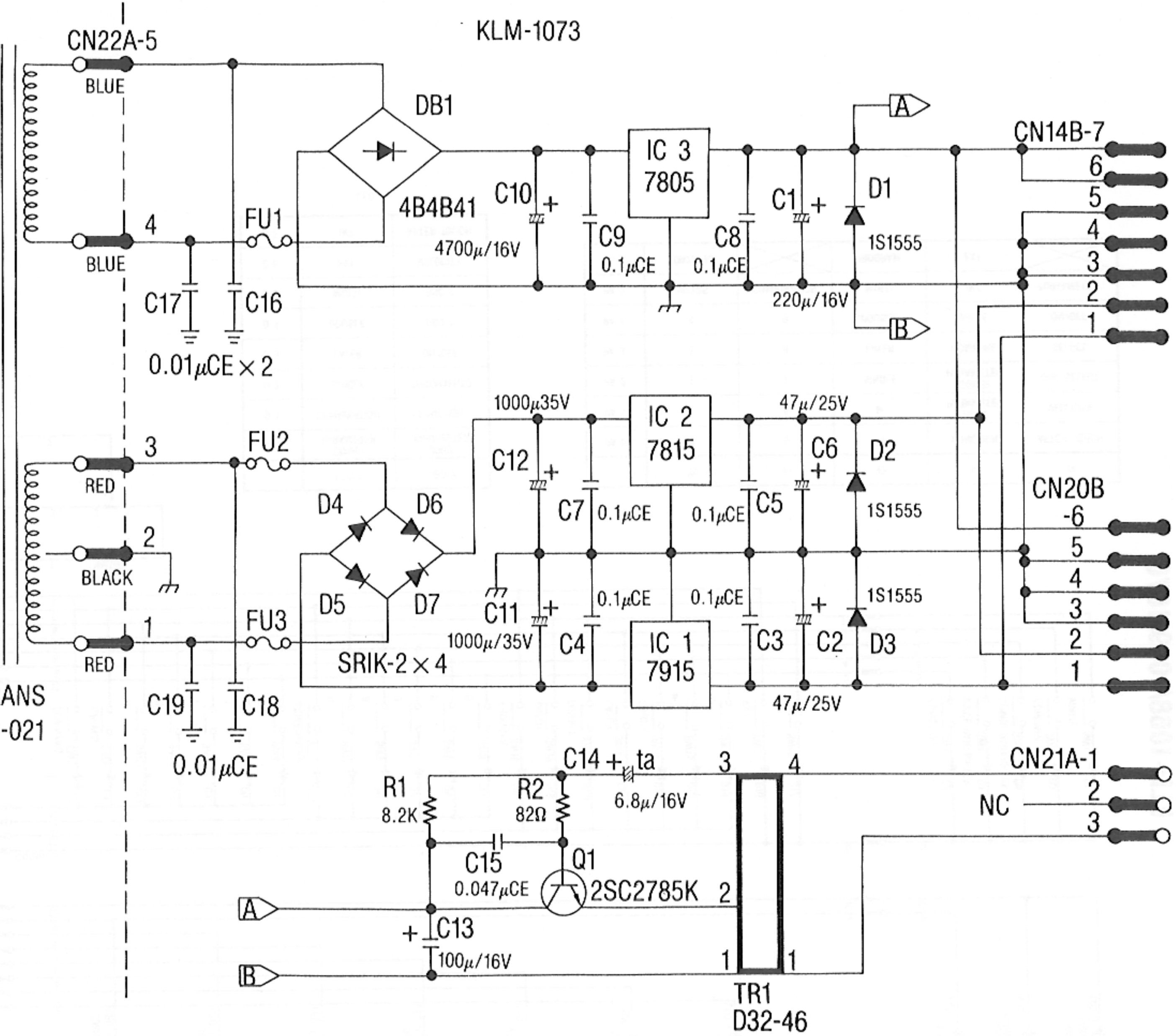
Mode 1: OMNI ON, POLY
Mode 3: OMNI ON, MONO

Mode 2: OMNI OFF, POLY
Mode 4: OMNI OFF, MONO

○: YES
×: NO

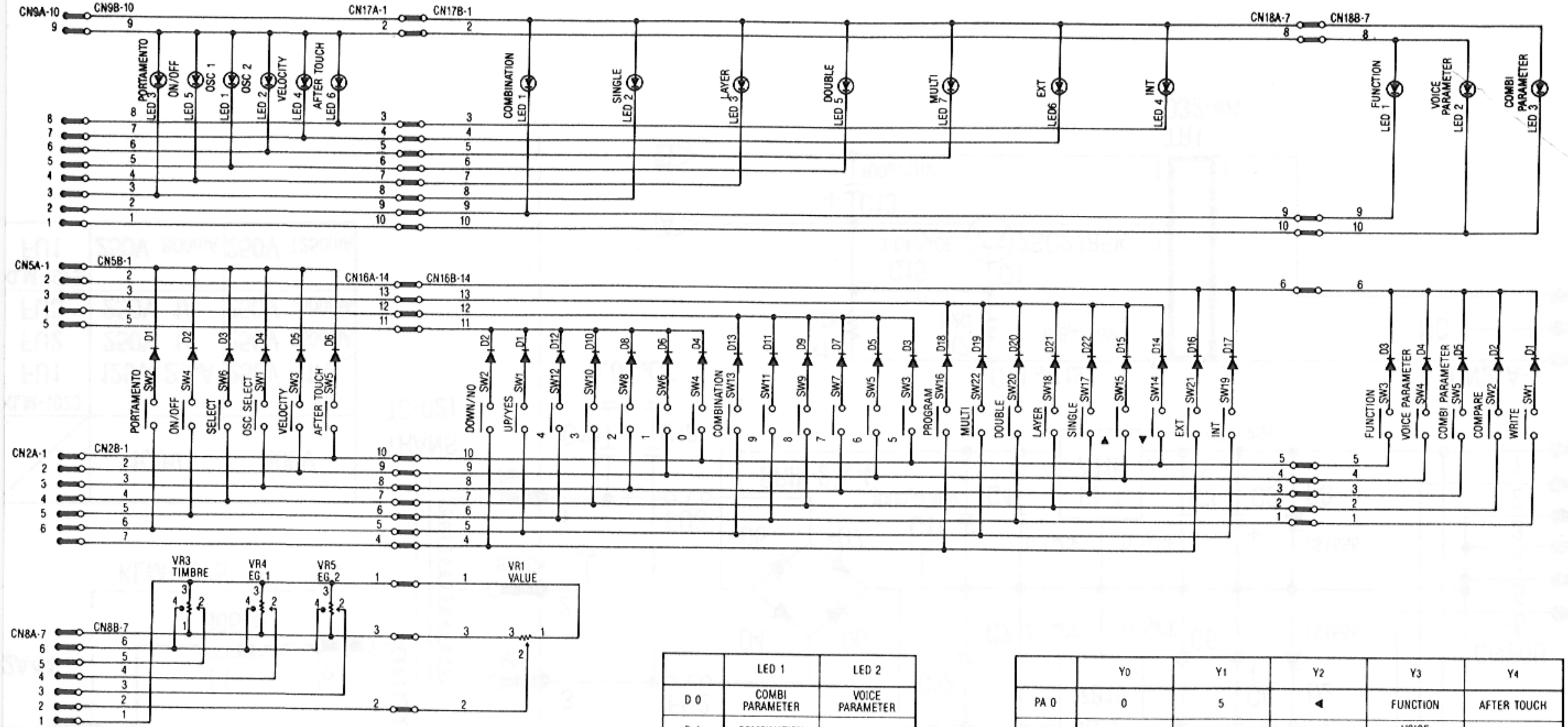
KLM-1073/1075

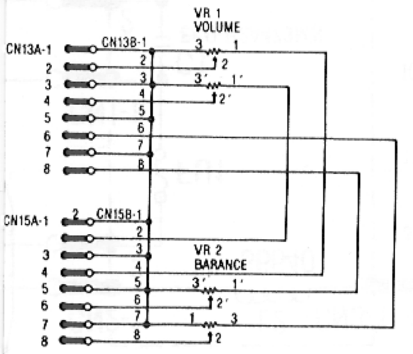




	100V	200V
KLM-1073		
FU1	125V 2.5A	250V T1A
FU2	250V 1A	250V T500mA
FU3	250V 1A	250V T500mA
KLM-1075		
FU1	250V 800mA	250V T250mA

KLM-1068/1069/1070



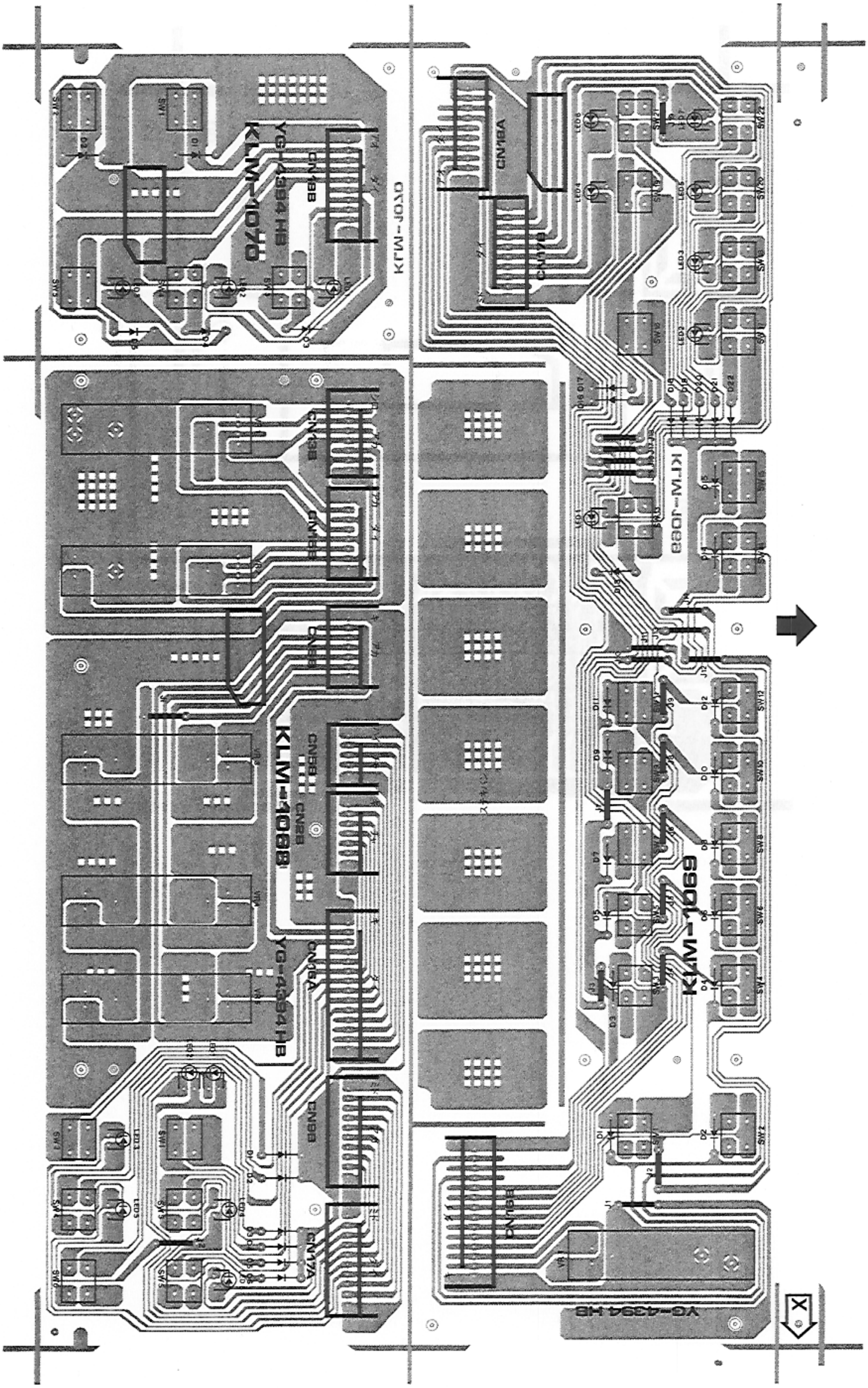


	LED 1	LED 2
D 0	COMBI PARAMETER	VOICE PARAMETER
D 1	COMBINATION	FUNCTION
D 2	SINGLE	PORTAMENTO
D 3	LAYER	ON/OFF
D 4	DOUBLE	OSC 1
D 5	MULTI	OSC 2
D 6	EXT	VELOCITY
D 7	INT	AFTER TOUCH

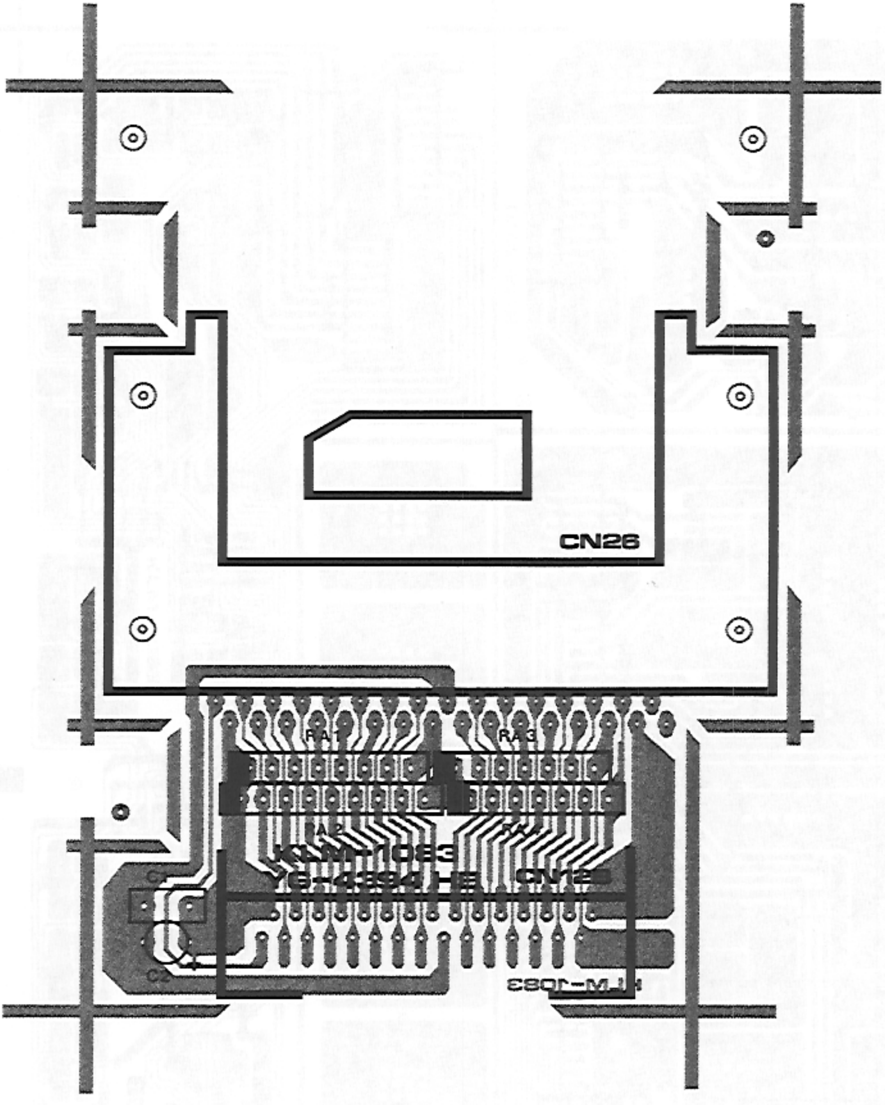
LEO

	Y0	Y1	Y2	Y3	Y4
PA 0	0	5	◀	FUNCTION	AFTER TOUCH
PA 1	1	6	▶	VOICE PARAMETER	VELOCITY
PA 2	2	7	SINGLE	COMBI PARAMETER	OSC SELECT
PA 3	3	8	LAYER	COMPARE	SELECT
PA 4	4	9	DOUBLE	WRITE	ON/OFF
PA 5	UP/YES	COMBINATION	MULTI	INT	PORTAMENTO
PA 6	DOWN/NO		PROGRAM	EXT	

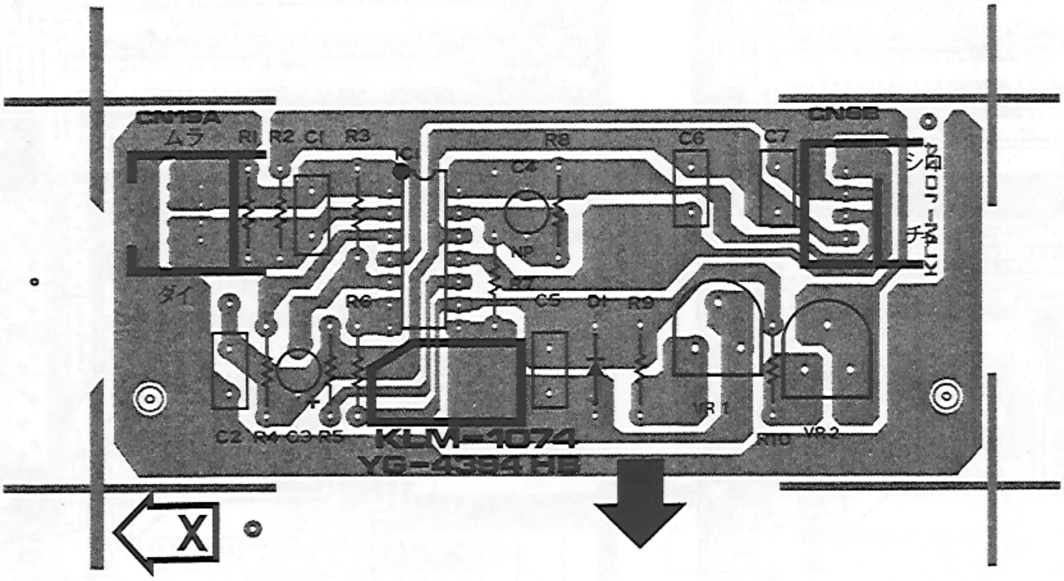
KLM-1068/1069/1070



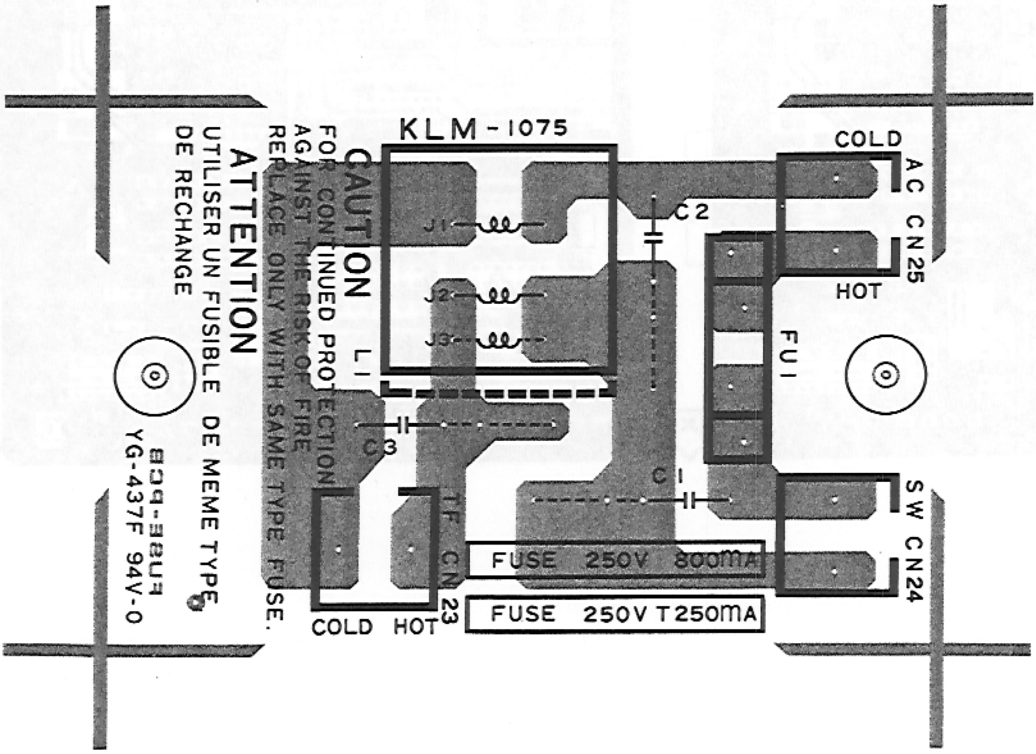
KLM-1083



KLM-1074



KLM-1075


KLM-1075
CAUTION
FOR CONTINUED PROTECTION AGAINST THE RISK OF FIRE REPLACE ONLY WITH SAME TYPE FUSE.
ATTENTION
UTILISER UN FUSIBLE DE MEME TYPE DE RECHANGE
YG-437F 94V-0
J1
J2
J3
L1
C2
C3
C1
FU1
COLD
AC CN25
HOT
SW CN24
TF CN23
COLD
HOT
FUSE 250V 800mA
FUSE 250V T250mA

KLM-1071